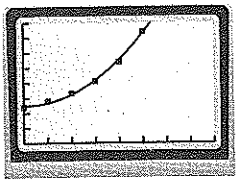
12. 

13. 149

Practice Level B

1. $y = x^2$ **2.** $y = (x - 2)^2 + 1$

3. $y = (x - 2)^2 - 4$ **4.** $y = (x + 4)^2 - 2$

5. $y = \frac{1}{2}(x - 3)^2 - 2$ **6.** $y = 2(x - 4)^2 - 5$

7. $y = (x - 3)(x - 2)$ **8.** $y = (x + 4)(x - 1)$

9. $y = (x + 5)(x - 5)$ **10.** $y = (x + 7)(x + 2)$

11. $y = 4x(x - 4)$ **12.** $y = -3(x + 2)(x + 3)$

13. $y = x^2 - 3$ **14.** $y = x^2 + 2x - 2$

15. $y = x^2 - x + 1$ **16.** $y = 3x^2 - 5x + 2$

17. $y = -x^2 + 2x - 4$ **18.** $y = 2x^2 - x - 5$

19. $P = -0.2t^2 + 2.1t + 23$ **20.** 21,900

21. $C = 0.09t^2 + 0.07t + 2.4$ **22.** $8720

Practice Level C

1. $y = 2(x - 1)^2 + 2$ **2.** $y = (x + 3)^2 - 2$

3. $y = \frac{1}{3}(x - 3)^2 + 1$ **4.** $y = (x - 1)^2 + \frac{2}{3}$

5. $y = 2\left(x - \frac{3}{4}\right)^2 + 2$ **6.** $y = \left(x + \frac{1}{2}\right)^2 + \frac{2}{3}$

7. $y = (x + 3)(x - 7)$ **8.** $y = 2(x - 4)(x - 6)$

9. $y = \frac{1}{2}(x + 2)\left(x - \frac{3}{2}\right)$

10. $y = \left(x + \frac{2}{3}\right)\left(x - \frac{1}{6}\right)$

11. $y = -\frac{3}{8}(x + 2)\left(x - \frac{5}{4}\right)$

12. $y = \frac{5}{6}\left(x + \frac{16}{3}\right)\left(x + \frac{5}{2}\right)$

13. $y = -2x^2 - 3x + 7$ **14.** $y = x^2 - 7x + 3$

15. $y = \frac{1}{2}x^2 + 2x - 3$ **16.** $y = -\frac{3}{4}x^2 + x - \frac{1}{2}$

17. $y = 3x^2 - \frac{7}{2}x - \frac{3}{2}$ **18.** $y = 4x^2 - 3x + \frac{1}{5}$

19. $y = -0.037x^2 - 0.083x + 10.02$

20. $y = -0.05x^2 - 0.01x + 10.01$ **21.** 2011

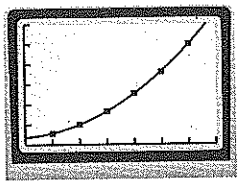
Study Guide

1. $y = (x - 1)^2 - 4$ **2.** $y = -(x + 2)^2 + 1$

3. $y = 2(x + 3)(x - 1)$

4. $y = -2(x + 4)(x - 2)$ **5.** $y = -x^2 - x + 2$

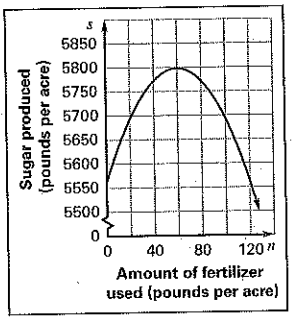
6. $y = 3x^2 - 2x - 5$

7. 

Problem Solving Workshop: Mixed Problem Solving

1. a. $s = -0.0655(n - 60)^2 + 5798$

b.



c. about 5800 lb/acre

2. a. $R = (40 - x)(80 + 5x)$

b. $(40 - x)(80 + 5x) > 3600$ **c.** $4 < x < 20$

3. Answers will vary.

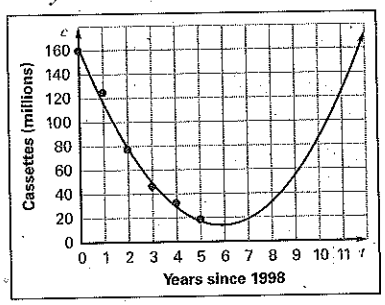
4. a. $-0.013x^2 + 0.67x - \frac{10}{3} > 0$ **b.** Yes; The football is about 0.49 yd, or 1.5 ft, above the crossbar when kicked from 45 yd.

5. 25 **6. a.** $y = -16x^2 + 38x + 6$

b. about 2.5 sec **c.** Write the equation in vertex form, use the graph to find the vertex, complete the square; about 28.6 ft **7.** 2 ft; The other solution is greater than either side length.

8. a. $y = 4.28x^2 - 50.41x + 162$

b.



c. No; It is unlikely that the shipments will rise again.

Challenge Practice

1. *Sample answer:* 8; $y = 1.2x + 0.9$

2. *Sample answer:* 10; $y = 0.125x^2 + 0.75x + 1$